PLECS WORKSHOP

Advanced Modeling and Simulation of Power Electronic Systems
Hochschule Darmstadt, March 28, 2017

08:30	Registration
09:00	Introduction to PLECS ▶I General use of PLECS Blockset and PLECS Standalone ▶I Instantaneous switching ▶I Variable and fixed-step operation Exercise: Modeling a switched-mode power supply
10:00	Break
10:30	Solver Settings ▶I Definition of stiff and non-stiff systems ▶I Explicit and non-explicit solvers ▶I Stability domains ▶I Accuracy considerations, step size control ▶I Proper handling of discontinuities, zero-crossing detection Exercise: Solver accuracy and settings
12:00	Lunch
13:00	Introduction to Thermal, Magnetic & Mechanic Modeling & Simulation ▶I Switching & conduction loss descriptions ▶I Combined electrical-thermal simulation ▶I Permeance Capacitance Analogy Model Exercise: Thermal modeling of a buck converter
14:30	Break
15:00	Overview of PLECS Tools ▶I AC Sweep and Impulse Response Analysis Tools ▶I Steady State Analysis Tool ▶I Implementing custom components Exercise: Creating a custom PV string component
16:00	End of day
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